

# **ECOTOUR OF NIAGARA**



## **PALS Conservation Project**

## **INTRODUCTION**

This booklet has been produced by the staff and volunteers associated with the Preservation of Agricultural Lands Society (PALS) Conservation Project. It is designed to highlight the PALS' Niagara Conservation Strategy which studies Niagara's croplands, genetic diversity, pollution problems and the wide variety of urban uses that are impacting this unique area.

The booklet is to be used as part of PALS' Ecotour on September 17th, 1988. The tour will visit some of the special areas of Niagara — areas where some progress has been made, such as the purchase of a portion of the Wainfleet Bog, and where destruction has taken place, such as the development that impacts the ecologically sensitive Shriner's Creek in Niagara Falls.

Niagara has many examples of both, and while much of our environment has been destroyed over the past two hundred years of settlement, some progress has been made. Our Conservation Strategy outlines how we can think globally and act locally to preserve this rare area. In highlighting the Strategy, the Ecotour booklet and tour touch upon both the problems and the solutions. All are an invitation for public and government participation in a vital endeavor.

## **ACKNOWLEDGEMENTS**

The Ecotour of the Niagara Region was made possible through a grant from Environment Canada. Text for site #1 was written by Jim Hasler, site #2 by Dr. John Middleton and site #3 by Peter Grandoni. Photographs were supplied by Jim Hasler for sites #1 and #3, and the St. Catharines Standard for site #2. The map was prepared by Sally Hewson, the project's art director.



*Looking north at the east end of the TCG gravel pit which has destroyed 200 acres of fruitland. The orchard on the right is also scheduled for excavation.*

*photo by Jim Hasler*

## **#1: THE FONTHILL KAME**

Sitting halfway between Lake Erie and Lake Ontario, the Fonthill Kame reaches about 300 feet above its surroundings and is the only hill of any significance in the Niagara Peninsula.

Unlike the adjacent Shorthills Provincial Park to the northeast, the Kame is unprotected in the Regional Plan, and only a small portion of its northern area is protected in the Escarpment Plan as an Escarpment Natural Area. And yet this is one of Niagara's most ecologically special areas.

The 1,000-hectare Kame is the headwater to the last Provincially significant cold water stream in Niagara and features an exceptional diversity of Carolinian species as well as tender fruit. Its mix of orchard,

forest, valley, vineyard and field, provides a refuge for species requiring extensive continuous blocks of habitat.

Within the Kame lies a special MNR candidate Nature Reserve site: the Fonthill Sandhills Valley. A Critically Unprotected Carolinian Zone, it is described by the World Wildlife Carolinian Program as "one of the largest forested and valley terrains in the Shorthills landscape unit."

On the south, the Kame's Ridgeville swamp is designated by the International Biological Program as the site of one of Niagara's last Tamarac forests and is home to the rare Carolinian Kingnut Hickory tree and Poison Sumac. Of significance also, the Fonthill Kame Delta is designated as an Area of Scientific and Natural Interest by the Ministry of Natural Resources as its relic beach, bar deposits, and lake terraces provide an excellent geologic study area.

This array of specialities is provided by the physical structure of the kame left by past ice ages and the microclimate created by this isolated hill, which is critical.

Here, the cold air on top of the hill spills down its slopes, somewhat as it does with the Escarpment in the northern part of Niagara. This moderates the air temperature in spring which prevents the blossoms from opening too early when they would still be at risk from frost. In the extreme cold and clear, still nights of winter this same air drainage prevents pockets of cold air settling to cause winter kill.

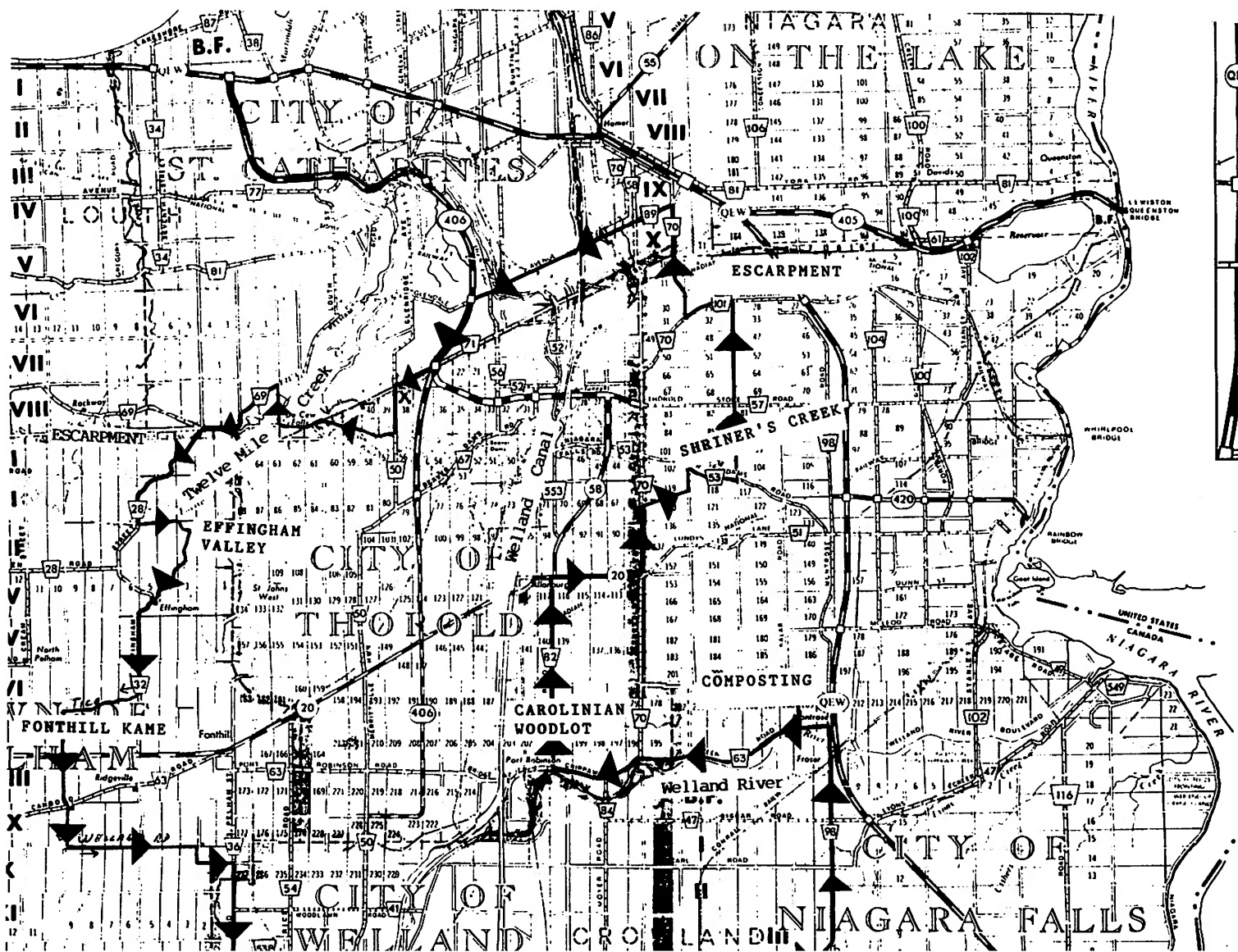
It has become quite evident that the Kame is the significant factor in the growing of fruit in this area. What is less clear is how much of it can be damaged or removed through mining before the fruit production is damaged also. In PALS' opinion, that point has **already** been reached!

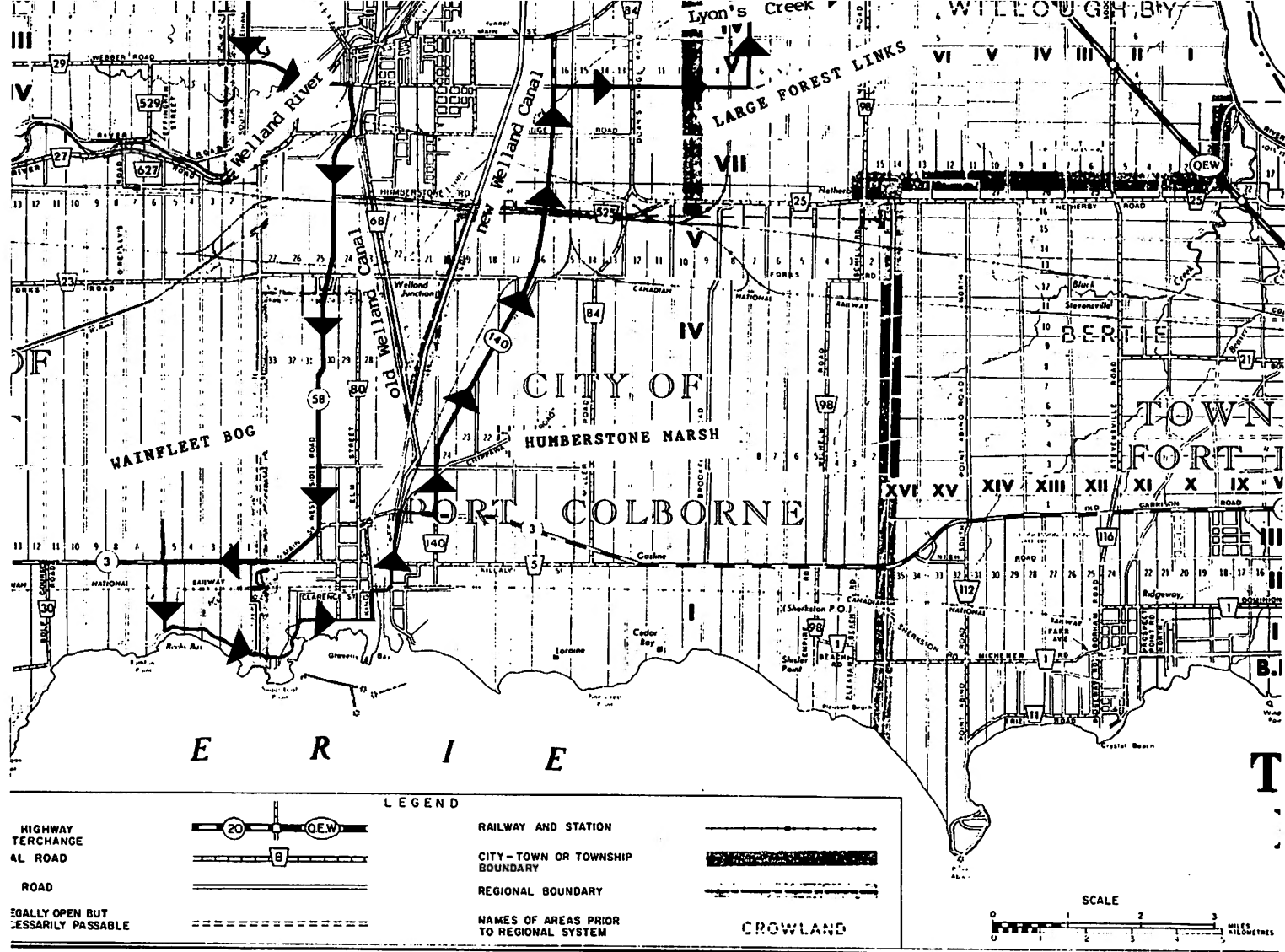
Within the last few decades, over 200 acres of the 600 acres that make up the high part of the Kame have been lost to sand and gravel extraction.

To date across Ontario the only experimental rehabilitation of excavated areas for fruit production has been a few meager acres in Pelham. In the case of Steed and Evans the land was only slightly modified by mining. At the TCG site, about 4 hectares (10 ac) are growing a hardy sour cherry crop, rather than the tender peach crop grown before.

Beyond all of this lies the question of need. With new building techniques and countless tons of gravel to be found elsewhere in Ontario, there is no need for this particular aggregate. Despite the cost of haulage, studies show that using other sources would add less than \$500 per new house in Niagara.

As to providing Niagara's share of the Provincial supply, we note that while it is possible to obtain gravel and sand elsewhere, it is not possible to grow tender fruit anywhere but in Niagara. This ultimately should result in a special treatment for our land!









*Fonthill naturalist John Cooper holds a map of the area just purchased by the Province of Ontario. He is standing in the largest peat bog in southern Ontario — the Wainfleet Bog.*

*photo by St. Catharines Standard*

## **#2: THE WAINFLEET BOG**

The Wainfleet Bog is a Class 1, Provincially significant wetland, according to the classification scheme of the Ministry of Natural Resources. It is by far the largest Class 1 wetland in the Niagara Region and is perhaps the largest semi-wild area in Niagara. It is well over 1,000 hectares in size, as large as the built-up portions of Thorold, Fort Erie or Port Colborne.

Access to the bog proper is difficult without an experienced guide. A band of trees surrounding the bog proper can be seen from Wilson Road and from Highway #58. Glimpses of the interior are also available from the end of Erie Peat Road.

**ACCESS IS THROUGH PRIVATE LAND AND REQUIRES A COMPASS!**

Despite the label on the topographic map, this wetland is predominantly a bog, not a marsh. It formed in the wet area found north of the Onandaga Escarpment, which can be seen as a rock cut on Highway #58, just north of Port Colborne, and in the quarry on Highway #3, just to the west. The

Escarpment blocks natural drainage to the south towards Lake Erie, only a few kilometres away.

Peat mosses (*Sphagnum*) began to grow in the depression about 5,000 years ago. Peat is very acidic, so almost no decomposition takes place. Instead, the dead mosses accumulate in a mound which grows up and up, by metres eventually. Live moss and other plants grow on top of this wet, organic, acidic mound. They form the basis of a very distinctive ecosystem, totally cut off from the soil below.

Bogs are common in the north, but rare south of the Canadian Shield. The Wainfleet Bog is the most southerly bog in Canada. As a result, some of the plants found here, such as cotton grass (*Eriophorum*) are also found as far north as the high Arctic tundra.

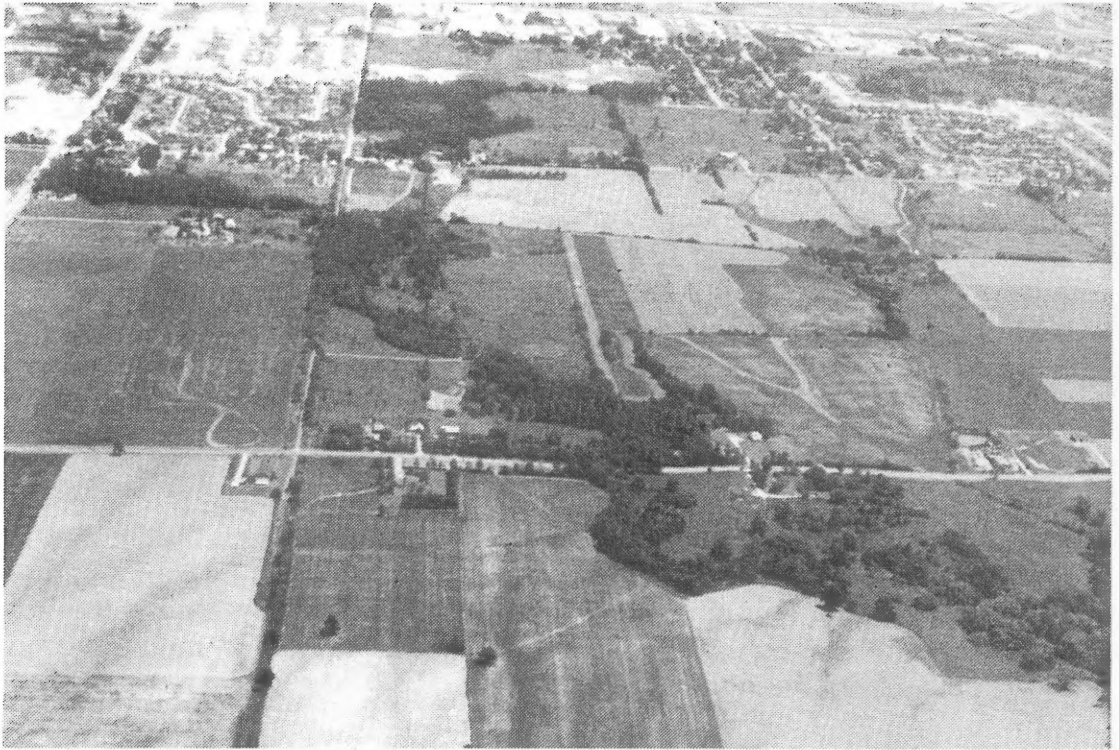
Another interesting plant found here is the sundew (*Drosera*), a plant that eats insects as a source of nitrogen and other nutrients. One of the most interesting animals is the Massasauga rattlesnake (*Sistrurus catenatus*), the only poisonous snake in Ontario. It is small and relatively harmless, but still impressive to see.

Peat moss has been extracted from the bog for almost a century, for use in horticulture and industry. All living vegetation is removed from a plot of several hectares, and the surface layers are allowed to dry. Then the peat is literally sucked up with giant vacuum machines and removed for simple processing. The processing plant can be seen at the end of Erie Peat Road. After all the useable peat has been extracted from the plot, it is abandoned and allowed to revegetate without further attention. Scientists from Brock University have been studying the process of regeneration in these plots, and the news is encouraging. Even after so thorough a disturbance, the ecosystem does bounce back, at least in part.

Parts of the bog in the northeast section have not been disturbed by mining. More than 200 hectares of these least disturbed parts were purchased in 1988 on behalf of the Ministry of Natural Resources. They will be maintained as a strict nature reserve. This purchase was one of the most exciting conservation events in Niagara in recent years.

The western end of the bog has been cleared for agriculture. The fields can be seen from Wilson Road. There is a controversial proposal to allow agriculture to the east of Wilson Road as well. Although the land would be very good for agriculture, local groups argue that it would be much more valuable for conservation. (PALS recommends in their Niagara Strategy that the whole of the Wainfleet Bog should be designated as part of a Carolinian Wilderness Park, both Provincially and Nationally.) This is likely to be a major land use controversy throughout Ontario, for it will be a test case of how serious the Provincial government will be in supporting its policy of wetland preservation.





*Looking east along Shriner's Creek towards Niagara Falls.*

photo by Jim Hasler

### **#3: THE SHRINER'S CREEK**

Shriner's Creek consists of four tributaries making up a watershed of approximately 1,100 hectares. It has its beginnings in the paved-over recharge area, which was the tender fruit orchards of Niagara Falls, east of the Q.E. Way. It winds its way westward through the valley of the remaining rural area and empties into the present Welland Canal, in the area of the historic Battle of Beaverdams, just south of the Thorold Tunnel. Until 1981 the Field Officers' Headquarters for the Battle of Lundy's Lane stood on the southern tributary of the Creek.

The creek is the habitat for numerous wildlife, including deer, fox, coyote, muskrats and raccoons. Red tailed hawks nest in the many shag bark hickory trees. As well, pike come up the creek in the spring to spawn. Sadly, their numbers have been reduced to nearly nil as the creek has suffered severe erosion; trees are uprooted and all the pools are silted in.

Still in the evenings at times, a Blue Heron can be seen flying in to feed in a nearby pond on the creek's southern tributary and in the main creek. Unfortunately, one of the spring-fed ponds was filled in by the Niagara Peninsula Conservation Authority and the City of Niagara Falls in 1981.

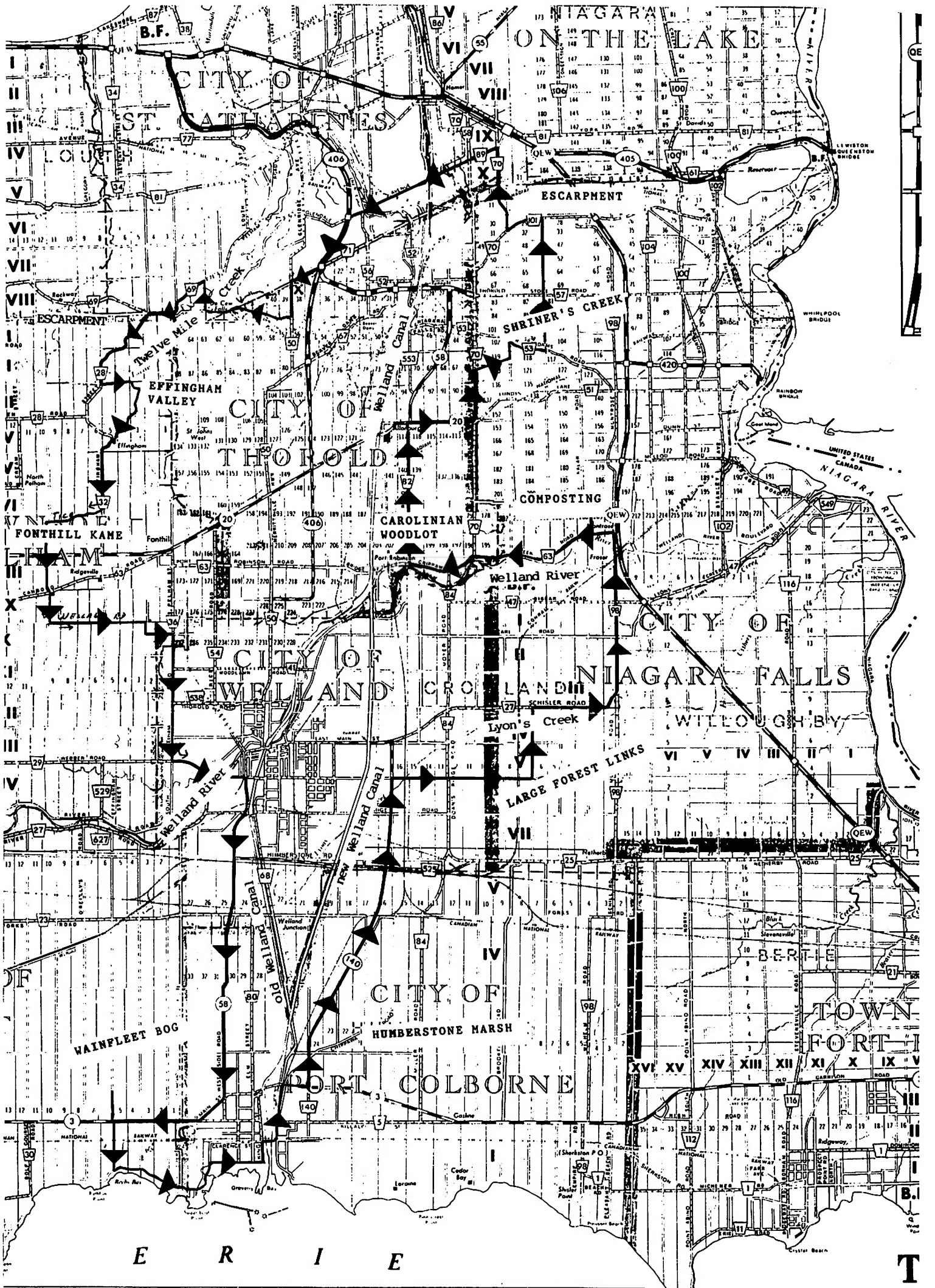
In the valley of the main creek the Jack Muir Waterfowl Sanctuary has been identified as a fragile and unique biological site in the Phillips Planning and Engineering study done for the Region in 1970. It was also recognized the Ministry of Transportation and Communication in a letter of June 12, 1974 and is federally recognized as a nesting area for waterfowl.

Unfortunately, the creek has been extensively damaged by flooding from subdivision run off and seems to be the subject of determined efforts to ignore its sensitivity. It was deliberately left off the Niagara Region's existing land use map of 1970 in hopes that this would avoid attention to this sensitive area. The long term plan is to convert this wooded, spring-fed, fish spawning creek, with pools scattered along the length of its main branch, into a straight channel. All trees and vegetation would be removed and it would become a storm sewer. Raw sewage overflow would empty into it for the new subdivisions planned on the tender fruit and grapelands of northwest Niagara Falls above the Escarpment.

A local group was formed to fight this in 1973 and with help from the Committee of 1,000 led by Norm Mitchenson, a long time conservationist, they went to court to stop the channelization. After three Ontario Municipal Board hearings, the city finally agreed to an environmental study. This resulted in an alternative to channelization being agreed upon and a withdrawal of the court case. The plan has been implemented and attempts to control downstream flooding and siltation through the use of dams on the main creek and the tributaries.

Since then, the group's attempts to have the stream recognized as environmentally sensitive by the City or even the Niagara Peninsula Conservation Authority, have failed. While the Region currently shows it as an environmentally sensitive area on their Natural Areas Map, the city seems determined to take their plans even further. They are working to extend development all the way to the border of Thorold and to use the creek as a sanitary trunk sewer to service a new pollution control plant beside the Welland Canal.

The end result will be an engineering disaster for this very special part of Niagara!



**LEGEND**

HIGHWAY INTERCHANGE	RAILWAY AND STATION	CITY - TOWN OR TOWNSHIP BOUNDARY
MAIN ROAD	REGIONAL BOUNDARY	NAMES OF AREAS PRIOR TO REGIONAL SYSTEM
ROAD		
LEGALLY OPEN BUT NECESSARILY PASSABLE		

**CROWLAND**

**SCALE**

0 1 2 3 MILES